

§Appl. No. 10/805,356
Amdt. dated February 28, 2007
Reply to Final Office Action of, December 1, 2006

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A device for connection with relative and controlled sealing between a pipe (1) and a ceramic tube (7) comprising:
 - a cylindrical chamber (5) that is attached in a sealed manner to said pipe, whereby one end of the ceramic tube is placed inside said chamber,
 - a seal comprising at least two sets of sealing fixtures (3, 3') placed in the annular space between the ceramic tube and the chamber,
 - a crosspiece (4) interposed between the two sets of sealing fixtures (3, 3'),
 - a flange (6) for applying longitudinal pressure to a compression ring in the form of a flange ~~compression means (6)~~ for compressing the sealing fixtures (3, 3'), the compression ring (4') applying longitudinal pressure to one set of sealing fixtures (3') which compress against the crosspiece (4), the crosspiece (4) applying longitudinal pressure against the other set of sealing fixtures (3) that compress with respect to the housing (5) and the compression ring (4') applying longitudinal pressure to one set of sealing fixtures (3'), which compress against the crosspiece (4), the crosspiece (4) applying longitudinal pressure against the other set of sealing fixtures (3) that compress with respect to the housing (5), and

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- an injector arrangement (8) for injection of a fluid between the two sets of sealing fixtures (3, 3') so as to apply a pressure differential that is determined on each of the fixtures (3, 3').
2. (Previously Presented) A device according to claim 1, in which the end of the ceramic tube is separated from the pipe by a stop-forming part (2).
3. (Previously Presented) A device according to claim 1, in which said chamber comprises a double wall that defines an inside space (19) in which a coolant circulates.
4. (Previously Presented) A device according to claim 3, in which said inside space communicates with space (9) between fixtures.
5. (Previously Presented) A device according to claim 1, in which the chamber comprises heat-resistant refractory steel.
6. (Previously Presented) A device according to claim 1, in which the ceramic tube comprises sealed ceramic selected from the group consisting of: silica-alumina, mullite, alumina, zirconia, ~~or~~ and silicon carbide.

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7. (Previously Presented) A device according to claim 2, in which the stop-forming part comprises a compressed silicate-type material reinforced by fibers having a compression rupture strength that is less than that of the ceramic tube and that of the cylindrical envelope.
8. (Previously Presented) A device according to claim 1, in which the sealing fixtures comprises silica-alumina-, alumina-, zirconia- or graphite-type fibers.
9. (Previously Presented) A device according to claim 8, in which the fibers of the fixtures have been impregnated with a ceramic material or a metal material.
10. (Previously Presented) A device according to claim 1, in which at least one of the sealing fixtures comprises ceramic powder.
11. (Previously Presented) A device according to claim 1, in which said fluid is steam.
12. (Previously Presented) A device according to claim 1, in which said pipe comprises a tube identical to said ceramic tube, and in which the ends of each of the ceramic tubes are placed in said chamber and linked to the chamber by identical sealing means.

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13. (Withdrawn) A method comprising providing a device according to claim 1, and further comprising, for controlling the sealed connection of the device:

- measuring the pressure difference between the reagent that is present in the pipe and said fluid,
- adjusting the pressure difference to keep a flushing leakage toward the inside of the tube.

14. (Previously Presented) A device according to claim 1 incorporated in a steam-cracking, pyrolysis, catalytic dehydrogenation or steam-reforming installation.

15. (Previously Presented) A device according to claim 14 incorporated in a steam-cracking installation operating at a temperature between 600 and 1200°C.

16. (Previously Presented) A device according to claim 6, wherein said ceramic tube comprises silicon carbide.

17. (Previously Presented) A device according to claim 3, in which the end of the ceramic tube is separated from the pipe by a stop-forming part (2).

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18. (Previously Presented) A device according to claim 4, in which the end of the ceramic tube is separated from the pipe by a stop-forming part (2).

19. (Previously Presented) A device according to claim 18, in which said pipe comprises a tube identical to said ceramic tube, and in which the ends of each of the ceramic tubes are placed in said chamber and linked to the chamber by identical sealing means.

20. (Currently Amended) A connection device suitable for providing controlled sealing between a pipe and a ceramic tube, said device comprising:

a cylindrical chamber (5) which at one of its ends is attachable in a sealed manner to a pipe, said chamber also having an opening at the other end to permit placement of one end of a ceramic tube inside said chamber,

at least two sets of sealing fixtures (3, 3') positioned within said chamber for contacting the outer surface of a ceramic tube positioned inside said chamber,

a crosspiece (4) interposed between said two sets of sealing fixtures,

~~means for compressing (6)~~ a compression ring (4') for compressing said two sets of sealing fixtures (3,3'), the compression ring (4') applying longitudinal pressure to one set of sealing fixtures (3'), the compression ring (4') applying longitudinal pressure against the other set of sealing fixtures (3) that compress

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with respect to the housing 5, and

an inlet port (8) for injection of a fluid between said two sets of sealing fixtures.

21. (Cancelled)

22. (Cancelled)

23. (Currently Amended) The device of claim 1 wherein the injector arrangement (8)
is configured as a port for connection to pressurized fluid.